

REMARKS

Claims 1-8, 14 and 15 remain in the application. Claims 1 and 5 have been amended to more particularly point out the meaning of "reduced amount of "stand up" fibers", basis for this amendment being found in Examples 1, 2 and 3. Example 1 represents a typical prior art mat that requires coating to cover up or reduce "stand up" fibers before being used as a facer on a building product.

The claimed invention is nonwoven fibrous mats having particular combinations of two lengths of fibers of particular diameters bound together with a resin binder, and laminates containing at least one of these nonwoven mats. The particular combination of fibers recited in the claims produces mats having a smooth surface and a surface having less "stand up fibers" than prior art mats, making these mats particularly suitable for coating and for using in laminates in which the coating is an exposed surface. When a lot of "stand up fibers" are present on the surface of a fibrous nonwoven mat, the exposed mat, coated or uncoated, is difficult to paint and achieve a nice appearance, please see the penultimate paragraph of the Background section of the present Specification. This is particularly important when the mat or coated mat is used as a facer for gypsum wall board, a typical potential application for a nonwoven mat and for the mats of the present invention.

Claims 1-8 and 14-15 were rejected under 35 USC 112, first paragraph, as failing to comply with the written description requirement, the Examiner that the original specification does not provide descriptive support for 50-75 wt. percent fibers having a length of at least about 0.45 inch long and about 25-50 wt. percent fibers having a length of less than about 0.4 inch. This rejection is respectfully traversed. The specification, which includes the original claims, does provide reasonable descriptive support for the limitations objected to for the following reasons:

1. The specification at page 3, in the Summary of the Invention includes the following statement: "Preferably a major portion of the fiber is at least about 0.45 inch long and a minor portion of the fiber is shorter than about 0.4 inch."

2. Original claim 13 states: "The method of claim 9 wherein about half of the fiber is at least about 0.45 inch long and a remainder of the fiber is less than about 0.4 inch long."
3. Original claim 8 states: "The mat of claim 5 wherein the mat contains about 75 wt. percent fiber that is at least about 0.45 inch long and about 25 wt. percent fiber that is about 0.2 inch long."
4. Example 3 illustrates using a blend of about 50 % 0.5 inch and about 50% 0.2 inch fiber.
5. Example 2 illustrates using a blend of about 75 % .5 inch long fiber and about 25% fiber that was 0.2 inch long.

This disclosure, like the boundaries of a piece of land, establishes the boundaries of the invention. Once one describes the outer boundaries of ones invention it is not necessary to describe every possible embodiment falling within those boundaries, and it is reasonable to conclude that the embodiments falling within those boundaries are inherently described as being the invention absent some statement or clear implication to the contrary.

For these reasons Applicant believes the claims are in full compliance with 35 USC 112 and respectfully request the Examiner to withdraw this rejection and to allow all of the claims.

Claims 1-8 and 14-15 were rejected under 35 USC 112, second paragraph as being indefinite because of the term "reduced amount of stand-up fibers", i. reduced as compared to what? The last two paragraphs of the Background provided in the specification explains the shortcomings of the prior art mats re stand up fibers, along with Example 1, i.e. requiring a heavy coating to cover up or reduce the "stand up" fibers. The second paragraph of the Summary, of the Specification, states that the invention "minimizes the amount of stand up fibers", thus it is clear that "reduced" means "reduced

from prior art mats. Also, Examples 2 and 3 (inventive mats) show improved smoothness, reduction in stand up fibers, to Example 1, an example of a prior mat that must be coated heavily because of the frequency and nature of stand up fibers. The amendment clarifies this meaning of "reduced" that applicant believes was already inherent in the previous claims. For these reasons the applicant believes that it is clear from the claims, and the disclosure in the specification, what "reduced" means to one of ordinary skill in the art and respectfully requests the Examiner to withdraw this rejection and to allow all of the claims.

Claims 1-8 and 14-15 were rejected under 35 USC 102 as being anticipated by Peng et al, Pub. Pat. App. No. 20030054714. The Examiner urges that the statement "mat comprises from about 0 to about 100 wt. percent of the fibrers have an average length of from about 0.5 to about 60 mm and from about 0 to about 100 wt. percent of the fibers have an average length of about 10 to about 150 mm" anticipates the applicants claimed invention. This statement of Peng et al is so broad as to include almost any nonwoven mat ever made and that ever will be made! Such a broad statement, without any evidence of correctness, is incredible, and not to be believed. Allegations in any reference that are, because of the knowledge and experience of one of ordinary skill in the pertinent art, outrageous, are not to be taken as a legitimate teaching or reasonable suggestion. To be a legitimate prior art reference for a teaching urged, the reference must not only enable the practice of that part of the invention, but also must first be credible. This reference fails in both as far as the broad statements are concerned. The Field of the Invention and the first sentence of both the Summary of the Invention and the Detailed Description of the Invention states that the mats of the invention have "improved tear strength" that results in roofing products requiring improved tear strength". All of the examples shown used fibers, 100% of which were at least 30 mm, i.e. 1.18 inches long! Peng et al does not teach how to make a roofing product or any other product having improved tear compared to prior art products using fibers about 50 % fibers that have lengths in the range of about 0.12 inch and about 0.6 inch with about 50 wt. % having lengths less than about 0.4 inch, and those skilled in the art would not believe that part of Peng et al's broad statement that is urged to encompass these limitations of the present invention. Such a broad statement does not even warrant testing because those skilled in the art, knowing the effect of fiber length on

tear strength of the mat, and the roofing product containing the mat, such as shingles, know that mats containing mixtures of glass fibers of less than a one-quarter inch long and less than one-half inch long cannot have tear strengths better than prior art roofing mats and roofing products, such as shingles, containing such mats.

If, on the other hand, Peng et al, by the use of this broad statement(s), is merely meaning that his invention, the application of polydimethylsiloxane to a wet web of glass fibers and polymer binders, is applicable to an extremely broad range of fiber lengths or an extremely broad range of mixed fiber lengths, which it may be, then such statements cannot be reasonably interpreted to mean what the Examiner is urging they mean, i.e. that Peng et al teaches making mats for roofing and building products having improved tear strengths, compared to prior art products, using any combination of fiber lengths and percentages within his broad statement(s).

Finally, for a reference to anticipate an invention it must teach every element of the claim(s). Peng et al do not teach every element of the original claims or of the now amended claims, e.g. it does not teach using 9-14 micron diameter fibers, the mats described in claims 3 and 4, or the laminates of claims 5-8, 14 and 15. For example, teaching using fibers within the range of 1-100 microns in diameter does not teach using fibers in a range of 9-14 microns and teaching using a combination of 1-100 wt. percent of fibers of one length and 100-1 wt. percent of fibers of a second length does not teach a mat of comprising fibers in which 25 wt. percent of the fibers are one length and 75 wt. percent of the fibers are a different length. For these reasons, Applicant believes the claims are patentable under 35 USC 102 and respectfully requests the Examiner to withdraw this rejection and to allow all of the claims.

For these reasons applicant believes that the present invention is patentable under 35 USC 102 and respectfully requests the Examiner to withdraw this rejection and to allow all of the claims.

Claims 3-4, 7-8 and 14-15 were rejected under 35 USC 103 as being unpatentable over Peng et al, i.e. as being made obvious by the teachings of Peng et al. The Examiner admits that Peng et al does not explicitly set forth the particularly claimed

ranges (and now percentages), but that it would have been obvious to one of ordinary skill in the art to have selected the optimum lengths and proportions from the teachings of Peng et al. This rejection is respectfully traversed because the Examiners reason for why one of ordinary skill in the art would so modify Peng et al from the preferred embodiments taught by Peng et al is based on a false premise and an unsupported and dubious assumption. First, Peng et al teaches a mat having high tear strength for use in roofing products or other building composites requiring high tear strengths, see paragraph [0002]. The Examiner assumes, without any sound basis and contrary to Peng et al's own statements, that Peng et al has not set forth the optimum compositions of his invention. Peng et al states clearly that their most preferred combinations of fiber lengths are 20-80 wt. percent of fibers having an average length of from about 10 to about 45 mm and from about 20-80 wt. percent of fibers having an average length of from about 30 to about 80 mm. Also, all of the examples used fibers having a length of at least 30 mm. Thus, Peng et al's teachings lead on of ordinary skill away from the combinations of fiber lengths of the presently claimed mats, etc.

Secondly, the Examiner has not shown anything to suggest that the parameters and proportions of applicant's claimed invention, selected to produce a smooth surface with a minimum of "stand up fibers" would produce optimum optimum tear strength in Peng et al. In fact, it doesn't, and one of ordinary skill in the art knows that the short lengths of the fibers in the presently claimed mats have substantially lower tear strengths than that of the mats disclosed specifically by Peng et al.

Applicant believes the Examiner does not have a reasonable basis for establishing, prima facie, that the presently claimed mats are merely an optimization of the disclosure and invention of Peng et al. Further, the Examiner has not presented any other reasonable basis for why one of ordinary skill in the art would modify Peng et al and select the parameters and ranges contained in the present claims to make a mat having a smooth surface with a reduced amount of "stand up fibers". The reason given, to improve tear strength, would in fact not be improved over the tear strengths of the mats disclosed in Peng et al's examples 1-5. For these reasons Applicant believes that the present claims are patentable under 35 USC 103 and respectfully requests the Examiner to withdraw this rejection and to allow all of the claims.

Applicants believe that the claims are now in condition for allowance, but if the Examiner believes one or more issues still exist, to expedite disposal of this application the Examiner is respectfully invited to call Applicants' attorney at the number listed below to discuss the issue or issues and a way of removing.

Respectfully submitted,


Attorney for Applicants

Robert D. Touslee
Reg. No. 34,032
Tel. No. 303-978-3927
Fax No. 303-978-2323